33. National Association of Broadcasters (NAB)
34. Omnipoint Corp. (Omnipoint)
35. Pacific Telesis Group (Pacific)
36. PACS Providers Forum (PPF)
37. Personal Communications Industry Association (PCIA)
38. Petroleum Communications, Inc. (PetroCom)
39. Pocket Communications, Inc. (Pocket)
40. PrimeCo Personal Communications, L.P. (PrimeCo)
41. Primosphere L.P. (Primosphere)
42. Puerto Rico Telephone Co. (PRTC)
43. Radio Order Corp. (ROC)
44. Rural Telecommunications Group (RTG)
45. Satellite Industry Association (SIA)
46. SBC Communications Inc. (SBC)
47. Shell Offshore Services Co. (SOSCO)
48. Sprint Spectrum L.P., d/b/a Sprint PCS and Sprint Corp. (Sprint PCS/Sprint)
49. Sun Microsystems, Inc. (Sun Microsystems)
50. Telecommunications Industry Association (TIA)
51. Telephone and Data Systems, Inc. (TDS)
52. 21st Century Telesis, Inc. (21st Century)
53. UTC, The Telecommunications Association (UTC)
54. Vanderbilt University (Vanderbilt)
55. Vanguard Cellular Systems, Inc. (Vanguard)

Reply Comments

1. Aerospace and Flight Test Radio Coordinating Council (AFTRCC)
2. Alcatel Network Systems, Inc. (ANS)
3. Alliance for Public Technology (APT)
4. American Mobile Telecommunications Association, Inc. (AMTA)
5. Ameritech (Ameritech)
6. Association of American Railroads (AAR)
7. Association of Public-Safety Communications Officials-International, Inc. (APCO)
8. AT&T Wireless Services, Inc. (AT&T)
9. Bell Atlantic Corp. (Bell Atlantic)
10. Cellular Telecommunications Industry Association (CTIA)
11. Comcast Corp. (Comcast)
12. Cornell University (Cornell)
13. Digital Satellite Broadcasting Corp. (DSBC)
14. DigiVox Corp. (DigiVox)

15. GTE Service Corp. (GTE)
16. Mobile Communications Technologies, Inc. (Mtel)
17. National Association of Black Owned Broadcasters (NABOB)
18. National Association of Broadcasters (NAB)
19. Nextel Communications, Inc. (Nextel)
20. NextWave Telecom Inc. (NextWave)
21. Northern Telecom Inc. (Nortel)
22. Omnipoint Corp. (Omnipoint)
23. Personal Communications Industry Association (PCIA)
24. Petroleum Communications, Inc. (PetroCom)
25. PrimeCo Personal Communications, L.P. (PrimeCo)
26. Primosphere L.P. (Primosphere)
27. Puerto Rico Telephone Co. (PRTC)
28. Rural Telecommunications Group (RTG)
29. Satellite CD Radio, Inc. (CD Radio)
30. SBC Communications Inc. (SBC)
31. Shell Offshore Services Co. (SOSCO)
32. Springwich Cellular L.P., SNET Cellular, Inc. and SNET Mobility, Inc. (SNET Mobility)
33. Sprint Spectrum L.P., d/b/a Sprint PCS and Sprint Corp. (Sprint PCS/Sprint)
34. Telecommunications Industry Association (TIA)
35. Telephone and Data Systems, Inc. (TDS)
36. Total Telecommunications Services, Inc. (TTS)
37. United States Internet Providers Association (USIPA)
38. UTC, The Telecommunications Association (UTC)

Appendix B
Final Rules

Parts 1, 2, 27, and 97 of title 47 of the Code of Federal Regulations are amended as follows:

PART 1 -- PRACTICE AND PROCEDURE

1. The authority citation for part 1 continues to read as follows:

AUTHORITY: 47 U.S.C. sections 151, 154, 303, and 309(j) unless otherwise noted.

2. Paragraph (b)(1) and the first sentence of paragraph (b)(2) of section 1.1307 and the entries for the Wireless Communications Service in the Table are revised to read as follows:

§ 1.1307 Actions which may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.

* * * * *

(b) * * *

(1) The exposure limits in section 1.1310 are generally applicable to all facilities, operations and transmitters regulated by the Commission. However, a determination of compliance with the exposure limits in section 1.1310 (routine environmental evaluation), and preparation of an EA if the limits are exceeded, is necessary only for facilities, operations and transmitters that fall into the categories listed in Table 1, or those specified in paragraph (b)(2) of this section. All other facilities, operations and transmitters are categorically excluded from making such studies or preparing an EA, except as indicated in paragraphs (c) and (d) of this section. For purposes of Table 1, "rooftop" means the roof or otherwise outside, topmost level or levels of a building structure that is occupied as a workplace or residence and where either workers or the general public may have access. The term "power" in column 2 of Table 1 refers to total operating power of the transmitting operation in question in terms of effective radiated power (ERP), equivalent isotropically radiated power (EIRP), or peak envelope power (PEP), as defined in section 2.1 of this chapter. For the case of the Cellular Radiotelephone Service, subpart H of part 22 of this chapter; the Personal Communications Service, part 24 of this chapter; the Wireless Communications Service, part 27 of this chapter; and covered Specialized Mobile Radio Service operations, part 90 of this chapter; the phrase "total power of all channels" in column 2 of Table 1 means the sum of the ERP or EIRP of all co-located simultaneously operating transmitters of the facility. When applying the criteria of Table 1, radiation in all directions should be considered. For the case of transmitting facilities using sectorized transmitting antennas, applicants and licensees should apply the criteria to all transmitting channels in a given sector, noting that for a highly directional antenna there is relatively little contribution to ERP or EIRP summation for other directions.

TABLE 1: TRANSMITTERS, FACILITIES AND OPERATIONS SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

SERVICE (TITLE 47 CFR RULE PART)	EVALUATION REQUIRED IF:
*	*
Wireless Communications Service (Part 27)	total power of all channels > 1000 W ERP (1640 W EIRP)
*	*

* Note: * * *

(2) Mobile and portable transmitting devices that operate in the Cellular Radiotelephone Service, the Personal Communications Services, the Satellite Communications Services, the Wireless Communications Service, the Maritime Services (ship earth stations only), and covered Specialized Mobile Radio Service providers authorized under subpart H of part 22, part 24, part 25, part 27, part 80, and part 90 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use, as specified in sections 2.1091 and 2.1093 of this chapter. * * *

* * * * *

3. Section 2.1091 is amended by revising the first sentence in paragraph (c) to read as follows:

§ 2.1091 Radiofrequency radiation exposure evaluation: mobile and unlicensed devices.

* * * * *

(c) Mobile devices that operate in the Cellular Radiotelephone Service, the Personal Communications Services, the Satellite Communications Services, the Wireless Communications Service, the Maritime Services and the Specialized Mobile Radio Service authorized under subpart H of part 22 of this chapter, part 24 of this chapter, part 25 of this chapter, part 27 of this chapter, part 80 of this chapter (ship earth station devices only) and part 90 of this chapter ("covered" SMR devices only, as defined in the note to Table 1 of section 1.1307(b)(1) of this chapter), are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use if their effective radiated power (ERP) is 1.5 watts or more. * * *

* * * * *

4. Section 2.1093 is amended by revising the first sentence of paragraph (c) to read as follows:

§ 2.1093 Radiofrequency radiation exposure evaluation: portable devices.

* * * * *

(c) Portable devices that operate in the Cellular Radiotelephone Service, the Personal Communications Services, the Satellite Communications services, the Wireless Communications Service, the Maritime Services and the Specialized Mobile Radio Service authorized under subpart H of part 22 of this chapter, part 24 of this chapter, part 25 of this chapter, part 27 of this chapter, part 80 of this chapter (ship earth station devices only), part 90 of this chapter ("covered" SMR devices only, as defined in the note to Table 1 of section 1.1307(b)(1) of this chapter), and portable unlicensed personal communication service and millimeter wave devices authorized under section 15.253, section 15.255 or subpart D of part 15 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use. * * *

* * * * *

PART 2 -- FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

1. The authority citation for part 2 continues to read as follows:

AUTHORITY: Sections 4, 302, 303, and 307 of the Communications Act of 1934, as amended, 47 U.S.C. sections 154, 302, 303 and 307, unless otherwise noted.

2. Section 2.106, the Table of Frequency Allocations, is amended as follows:

a. Remove the existing entries for 2300-2450 MHz.

b. Add entries in numerical order for 2300-2450 MHz.

c. In the International Footnotes under heading I., add footnotes S5.150, S5.282, S5.393, S5.394, S5.395, and S5.396 in numerical order.

d. In the International Footnotes under heading II., remove footnotes 750B, 751, 751A, and 751B.

e. Remove United States footnote US253.

f. Add United States footnotes US338 and US339 in numerical order.

g. Revise United States footnotes US276 and US328.

h. Revise Government footnote G2.

i. Add Government footnotes G120, G123 and G124 in numerical order.

The revisions and additions read as follows:

§ 2.106 Table of Frequency Allocations.

* * * * *

International table			United States table		FCC use designators	
Region 1 – allocation MHz	Region 2 – allocation MHz	Region 3 – allocation MHz	Government	Non-Government	Rule part(s)	Special-use frequencies
			Allocation MHz	Allocation MHz		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
•	•	•	•	•	•	•
2300 – 2305 FIXED MOBILE Amateur Radiolocation	2300 – 2305 FIXED MOBILE RADIOLOCATION Amateur S5.394	2300 – 2305 FIXED MOBILE RADIOLOCATION Amateur	2300 – 2305 G123	2300 – 2305 Amateur	Amateur (97)	
2305 – 2310 FIXED MOBILE Amateur Radiolocation	2305 – 2310 FIXED MOBILE RADIOLOCATION Amateur S5.394	2305 – 2310 FIXED MOBILE RADIOLOCATION Amateur	2305 – 2310 US338 G123	2305 – 2310 FIXED MOBILE except aeronautical mobile RADIOLOCATION Amateur US338	WIRELESS COMMUNICATIONS (27) Amateur (97)	
2310 – 2320 FIXED MOBILE Amateur Radiolocation S5.395	2310 – 2320 FIXED MOBILE RADIOLOCATION Amateur S5.393 S5.394 S5.396	2310 – 2320 FIXED MOBILE RADIOLOCATION Amateur S5.393 S5.396	2310 – 2320 Fixed Mobile US339 Radiolocation G2 S5.396 US327 US338 G120	2310 – 2320 BROADCASTING-SATELLITE US327 FIXED MOBILE US339 RADIOLOCATION S5.396 US338	WIRELESS COMMUNICATIONS (27)	Digital Audio Radio Services
2320 – 2345 FIXED MOBILE Amateur Radiolocation S5.395	2320 – 2345 FIXED MOBILE RADIOLOCATION Amateur S5.393 S5.394 S5.396	2320 – 2345 FIXED MOBILE RADIOLOCATION Amateur S5.393 S5.396	2320 – 2345 Fixed Mobile US276 Radiolocation G2 S5.396 US327 US328 G120	2320 – 2345 BROADCASTING-SATELLITE US327 Mobile US276 US328 S5.396		Digital Audio Radio Services
2345– 2360 FIXED MOBILE Amateur Radiolocation S5.395	2345 – 2360 FIXED MOBILE RADIOLOCATION Amateur S5.393 S5.394 S5.396	2345 – 2360 FIXED MOBILE RADIOLOCATION Amateur S5.393 S5.396	2345 – 2360 Fixed Mobile US339 Radiolocation G2 S5.396 US327 G120	2345 – 2360 BROADCASTING-SATELLITE US327 FIXED MOBILE US339 RADIOLOCATION S5.396	WIRELESS COMMUNICATIONS (27)	Digital Audio Radio Services

International table			United States table		FCC use designators	
Region 1 – allocation MHz	Region 2 – allocation MHz	Region 3 – allocation MHz	Government	Non-Government	Rule part(s)	Special-use frequencies
(1)	(2)	(3)	Allocation MHz (4)	Allocation MHz (5)	(6)	(7)
2360 – 2390 FIXED MOBILE Amateur Radiolocation	2360 – 2390 FIXED MOBILE RADIOLOCATION Amateur S5.394	2360 – 2390 FIXED MOBILE RADIOLOCATION Amateur	2360 – 2390 MOBILE US276 RADIOLOCATION G2 Fixed G120	2360 – 2390 MOBILE US276		
2390 – 2400 FIXED MOBILE Amateur Radiolocation	2390 – 2400 FIXED MOBILE RADIOLOCATION Amateur S5.394	2390 – 2400 FIXED MOBILE RADIOLOCATION Amateur	2390 – 2400 G122	2390 – 2400 AMATEUR	AMATEUR (97) Radio Frequency Devices (15)	
2400 – 2402 FIXED MOBILE Amateur Radiolocation S5.150 S5.282	2400 – 2402 FIXED MOBILE RADIOLOCATION Amateur S5.150 S5.282 S5.394	2400 – 2402 FIXED MOBILE RADIOLOCATION Amateur S5.150 S5.282	2400 – 2402 S5.150 G123	2400 – 2402 Amateur S5.150 S5.282	Amateur (97)	
2402 – 2417 FIXED MOBILE Amateur Radiolocation S5.150 S5.282	2402 – 2417 FIXED MOBILE RADIOLOCATION Amateur S5.150 S5.282 S5.394	2402 – 2417 FIXED MOBILE RADIOLOCATION Amateur S5.150 S5.282	2402 – 2417 S5.150 G122	2402 – 2417 AMATEUR S5.150 S5.282	AMATEUR (97) Radio Frequency Devices (15)	
2417 – 2450 FIXED MOBILE Amateur Radiolocation S5.150 S5.282	2417 – 2450 FIXED MOBILE RADIOLOCATION Amateur S5.150 S5.282 S5.394	2417 – 2450 FIXED MOBILE RADIOLOCATION Amateur S5.150 S5.282	2417 – 2450 Radiolocation G2 S5.150 S5.282 G124	2417 – 2450 Amateur S5.150 S5.282	Amateur (97)	
•	•	•	•	•	•	•

INTERNATIONAL FOOTNOTES

* * * * *

I. New "S" Numbering Scheme.

* * * * *

S5.150 The following bands:
13533-13567 kHz (centre frequency 13560 kHz),
26957-27283 kHz (centre frequency 27120 kHz),
40.66-40.70 MHz (centre frequency 40.68 MHz),
902-928 MHz in Region 2 (centre frequency 915 MHz),
2400-2500 MHz (centre frequency 2450 MHz),
5725-5875 MHz (centre frequency 5800 MHz), and
24-24.25 GHz (centre frequency 24.125 GHz)
are also designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within these bands must accept harmful interference which may be caused by these applications. ISM equipment operating in these bands is subject to the provisions of No. 1815/S15.13.

S5.282 In the bands 435-438 MHz, 1260-1270 MHz, 2400-2450 MHz, 3400-3410 MHz (in Regions 2 and 3 only) and 5650-5670 MHz, the amateur-satellite service may operate subject to not causing harmful interference to other services operating in accordance with the Table (see No. S5.43). Administrations authorizing such use shall ensure that any harmful interference caused by emissions from a station in the amateur-satellite service is immediately eliminated in accordance with the provisions of No. 2741/S25.11. The use of the bands 1260-1270 MHz and 5650-5670 MHz by the amateur-satellite service is limited to the Earth-to-space direction.

* * * * *

S5.393 Additional allocation: in the United States and India, the band 2310-2360 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial sound broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (WARC-92).

S5.394 In the United States, the use of the band 2300-2390 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services. In Canada, the use of the band 2300-2483.5 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services.

S5.395 In France, the use of the band 2310-2360 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service.

S5.396 Space stations of the broadcasting-satellite service in the band 2310-2360 MHz operating in accordance with No. S5.393 that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution 33. Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighboring countries prior to their bringing into use.

* * * * *

UNITED STATES (US) FOOTNOTES

* * * * *

US276 Except as otherwise provided for herein, use of the bands 2320-2345 and 2360-2390 MHz by the mobile service is limited to aeronautical telemetering and associated telecommand operations for flight testing of manned or unmanned aircraft, missiles or major components thereof. The following four frequencies are shared on a co-equal basis by Government and non-Government stations for telemetering and associated telecommand operations of expendable and reusable launch vehicles whether or not such operations involve flight testing: 2332.5, 2364.5, 2370.5, and 2382.5 MHz. All other mobile telemetering uses shall be secondary to the above uses.

* * * * *

US328 In the band 2320-2345 MHz, the mobile and radiolocation services are allocated on a primary basis until a broadcasting-satellite (sound) service has been brought into use in such a manner as to affect or be affected by the mobile and radiolocation services in those service areas. The broadcasting-satellite (sound) service during implementation should also take cognizance of the expendable and reusable launch vehicle frequency 2332.5 MHz, to minimize the impact on this mobile service use to the extent possible.

* * * * *

US338 In the 2305-2310 MHz band, space-to-Earth operations are prohibited. Additionally, in the 2305-2320 MHz band, all Wireless Communications Service (WCS) operations within 50 kilometers of 35° 20′ North Latitude and 116° 53′ West Longitude shall be coordinated through the Frequency Assignment Subcommittee of the Interdepartment Radio Advisory Committee in order to minimize harmful interference to NASA's Goldstone Deep Space facility.

US339 The bands 2310-2320 and 2345-2360 MHz are also available for aeronautical telemetering and associated telecommand operations for flight testing of manned or unmanned aircraft, missiles or major components thereof on a secondary basis to the Wireless Communications Service. The following two frequencies are shared on a co-equal basis by Government and non-Government stations for telemetering and associated telecommand operations of expendable and re-usable launch vehicles whether or not such operations involve flight

testing: 2312.5 and 2352.5 MHz. Other mobile telemetering uses may be provided on a non-interference basis to the above uses. The broadcasting-satellite (sound) service during implementation should also take cognizance of the expendable and reusable launch vehicle frequencies 2312.5 and 2352.5 MHz, to minimize the impact on this mobile service use to the extent possible.

* * * * *

GOVERNMENT FOOTNOTES

* * * * *

G2 In the bands 216-225, 420-450 (except as provided by US217), 890-902, 928-942, 1300-1400, 2310-2390, 2417-2450, 2700-2900, 5650-5925, and 9000-9200 MHz, the Government radiolocation is limited to the military services.

* * * * *

G120 Development of airborne primary radars in the band 2310-2390 MHz with peak transmitter power in excess of 250 watts for use in the United States is not permitted.

* * * * *

G123 The bands 2300-2310 and 2400-2402 MHz were identified for reallocation, effective August 10, 1995, for exclusive non-Government use under Title VI of the Omnibus Budget Reconciliation Act of 1993. Effective August 10, 1995, any Government operations in these bands are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations.

G124 The band 2417-2450 MHz was identified for reallocation, effective August 10, 1995, for mixed Government and non-Government use under Title VI of the Omnibus Budget Reconciliation Act of 1993.

3. Section 2.1091 is amended by revising the first sentence in paragraph (c) to read as follows:

§ 2.1091 Radiofrequency radiation exposure evaluation: mobile and unlicensed devices.

* * * * *

(c) Mobile devices that operate in the Cellular Radiotelephone Service, the Personal Communications Services, the Satellite Communications Services, the Wireless Communications Service, the Maritime Services and the Specialized Mobile Radio Service

authorized under subpart H of part 22 of this chapter, part 24 of this chapter, part 25 of this chapter, part 27 of this chapter, part 80 of this chapter (ship earth station devices only) and part 90 of this chapter ("covered" SMR devices only, as defined in the note to Table 1 of section 1.1307(b)(1) of this chapter), are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use if their effective radiated power (ERP) is 1.5 watts or more. * * *

* * * * *

4. Section 2.1093 is amended by revising the first sentence of paragraph (c) to read as follows:

§ 2.1093 Radiofrequency radiation exposure evaluation: portable devices.

* * * * *

(c) Portable devices that operate in the Cellular Radiotelephone Service, the Personal Communications Services, the Satellite Communications services, the Wireless Communications Service, the Maritime Services and the Specialized Mobile Radio Service authorized under subpart H of part 22 of this chapter, part 24 of this chapter, part 25 of this chapter, part 27 of this chapter, part 80 of this chapter (ship earth station devices only), part 90 of this chapter ("covered" SMR devices only, as defined in the note to Table 1 of section 1.1307(b)(1) of this chapter), and portable unlicensed personal communication service and millimeter wave devices authorized under section 15.253, section 15.255 or subpart D of part 15 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use. * * *

* * * * *

5. A new part 27 is added to read as follows:

PART 27 -- WIRELESS COMMUNICATIONS SERVICE

Subpart A -- General Information

Sec.

Subpart B -- Applications and Licenses

Subpart C -- Technical Standards

Subpart D -- Competitive Bidding Procedures for WCS

Subpart E -- Application, Licensing, and Processing Rules for WCS

AUTHORITY: 47 U.S.C. sections 154, 301, 302, 303, 307, 309 and 332, unless otherwise noted.

Subpart A -- General Information

§ 27.1 Basis and purpose.

This section contains the statutory basis for this part of the rules and provides the purpose for which this part is issued.

(a) Basis. The rules for the Wireless Communications Service (WCS) in this part are promulgated under the provisions of the Communications Act of 1934, as amended, that vest authority in the Federal Communications Commission to regulate radio transmission and to issue licenses for radio stations.

(b) Purpose. This part states the conditions under which the 2305-2320 MHz and 2345-2360 MHz bands are made available and licensed for the provision of WCS.

(c) Scope. The rules in this part apply only to stations authorized under this part.

§ 27.2 Permissible communications.

Subject to the rules contained herein, fixed, mobile and radiolocation services may be provided using the 2305-2320 and 2345-2360 MHz bands. In addition, satellite digital audio radio service (DARS) may be provided using the 2310-2320 and 2345-2360 MHz bands. Satellite DARS service shall be provided in manner consistent with part 25 of this chapter.

§ 27.3 Other applicable rule parts.

Other FCC rule parts applicable to the Wireless Communications Service include the following:

(a) Part 0. This part describes the Commission's organization and delegations of authority. Part 0 of this chapter also lists available Commission publications, standards and procedures for access to Commission records, and location of Commission Field Offices.

(b) Part 1. This part includes rules of practice and procedure for license applications, adjudicatory proceedings, procedures for reconsideration and review of the Commission's actions; provisions concerning violation notices and forfeiture proceedings; competitive bidding procedures; and the environmental requirements that, if applicable, must be complied with prior to the initiation of construction.

(c) Part 2. This part contains the Table of Frequency Allocations and special requirements in international regulations, recommendations, agreements, and treaties. This part also contains standards and procedures concerning the marketing and importation of radio frequency devices, and for obtaining equipment authorization.

(d) Part 5. This part contains rules prescribing the manner in which parts of the radio frequency spectrum may be made available for experimentation.

(e) Part 17. This part contains requirements for construction, marking and lighting of antenna towers.

(f) Part 25. This part contains the requirements for satellite communications, including satellite DARS.

(g) Part 51. This part contains general duties of telecommunications carriers to provide for interconnection with other telecommunications carriers.

(h) Part 68. This part contains technical standards for connection of terminal equipment to the telephone network.

§ 27.4 Terms and definitions.

Assigned Frequency. The center of the frequency band assigned to a station.

Authorized Bandwidth. The maximum width of the band of frequencies permitted to be used by a station. This is normally considered to be the necessary or occupied bandwidth, whichever is greater.

Average Terrain. The average elevation of terrain between 3 and 16 kilometers from the antenna site.

Effective Radiated Power (ERP) (in a given direction). The product of the power supplied to the antenna and its gain relative to a half-wave dipole in a given direction.

Equivalent Isotropically Radiated Power (EIRP). The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Fixed Service. A radio communication service between specified fixed points.

Fixed Station. A station in the fixed service.

Land Mobile Service. A mobile service between base stations and land mobile stations, or between land mobile stations.

Land Mobile Station. A mobile station in the land mobile service capable of surface movement within the geographic limits of a country or continent.

Land Station. A station in the mobile service not intended to be used while in motion.

Mobile Service. A radio communication service between mobile and land stations, or between mobile stations.

Mobile Station. A station in the mobile service intended to be used while in motion or during halts at unspecified points.

National Geodetic Reference System (NGRS). The name given to all geodetic control data contained in the National Geodetic Survey (NGS) data base. (Source: National Geodetic Survey, U.S. Department of Commerce)

Radiodetermination. The determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to these parameters, by means of the propagation properties of radio waves.

Radiolocation. Radiodetermination used for purposes other than those of radionavigation.

Radionavigation. Radiodetermination used for the purpose of navigation, including obstruction warning.

Satellite Digital Audio Radio Service (satellite DARS). A radiocommunication service in which compact disc quality programming is digitally transmitted by one or more space stations.

Wireless Communications Service. A radiocommunication service that encompasses fixed, mobile, satellite DARS, and radiolocation services.

§ 27.5 Frequencies.

The following frequencies are available for WCS.

(a) Two paired channel blocks are available for assignment on a Major Economic Area basis as follows:

Block A: 2305-2310 and 2350-2355 MHz; and
Block B: 2310-2315 and 2355-2360 MHz.

(b) Two unpaired channel blocks are available for assignment on a Regional Economic Area Grouping basis as follows:

Block C: 2315-2320 MHz; and
Block D: 2345-2350 MHz.

§ 27.6 Service areas.

WCS service areas are Major Economic Areas (MEAs) and Regional Economic Area Groupings (REAGs) as defined below. Both MEAs and REAGs are based on the U.S. Department of Commerce's 172 Economic Areas (EAs). *See* 60 Federal Register 13114 (March 10, 1995). In addition, the Commission shall separately license Guam and the Northern Mariana Islands, Puerto Rico and the United States Virgin Islands, American Samoa, and the Gulf of Mexico, which have been assigned Commission-created EA numbers 173-176, respectively. Maps of the EAs, MEAs, and REAGs and the Federal Register Notice that established the 172 EAs are available for public inspection and copying at the Commercial Wireless Division Public Reference Room, Room 5608, 2025 M Street, N.W., Washington, D.C.

(a) The 52 MEAs are composed of one or more EAs and the 12 REAGs are composed of one or more MEAs, as defined in the table below:

REAGs	MEAs	EAs
1 (Northeast)	1 (Boston)	1-3
	2 (New York City)	4-7, 10
	3 (Buffalo)	8
	4 (Philadelphia)	11-12
2 (Southeast)	5 (Washington)	13-14
	6 (Richmond)	15-17, 20
	7 (Charlotte-Greensboro-Greenville-Raleigh)	18-19, 21-26, 41-42, 46
	8 (Atlanta)	27-28, 37-40, 43
	9 (Jacksonville)	29, 35
	10 (Tampa-St. Petersburg-Orlando)	30, 33-34
	11 (Miami)	31-32
3 (Great Lakes)	12 (Pittsburgh)	9, 52-53
	13 (Cincinnati-Dayton)	48-50
	14 (Columbus)	51
	15 (Cleveland)	54-55
	16 (Detroit)	56-58, 61-62
	17 (Milwaukee)	59-60, 63, 104-105, 108
	18 (Chicago)	64-66, 68, 97, 101
	19 (Indianapolis)	67
	20 (Minneapolis-St. Paul)	106-107, 109-114, 116
	21 (Des Moines-Quad Cities)	100, 102-103, 117
4 (Mississippi Valley)	22 (Knoxville)	44-45

	23 (Louisville-Lexington-Evansville)	47, 69-70, 72
	24 (Birmingham)	36, 74, 78-79
	25 (Nashville)	71
	26 (Memphis-Jackson)	73, 75-77
	27 (New Orleans-Baton Rouge)	80-85
	28 (Little Rock)	90-92, 95
	29 (Kansas City)	93, 99, 123
	30 (St. Louis)	94, 96, 98
5 (Central)	31 (Houston)	86-87, 131
	32 (Dallas-Fort Worth)	88-89, 127-130, 135, 137-138
	33 (Denver)	115, 140-143
	34 (Omaha)	118-121
	35 (Wichita)	122
	36 (Tulsa)	124
	37 (Oklahoma City)	125-126
	38 (San Antonio)	132-134
	39 (El Paso-Albuquerque)	136, 139, 155-157
	40 (Phoenix)	154, 158-159
6 (West)	41 (Spokane-Billings)	144-147, 168
	42 (Salt Lake City)	148-150, 152
	43 (San Francisco-Oakland-San Jose)	151, 162-165
	44 (Los Angeles-San Diego)	153, 160-161
	45 (Portland)	166-167
	46 (Seattle)	169-170
7 (Alaska)	47 (Alaska)	171

8 (Hawaii)	48 (Hawaii)	172
9 (Guam and the Northern Mariana Islands)	49 (Guam and the Northern Mariana Islands)	173
10 (Puerto Rico and U.S. Virgin Islands)	50 (Puerto Rico and U.S. Virgin Islands)	174
11 (American Samoa)	51 (American Samoa)	175
12 (Gulf of Mexico)	52 (Gulf of Mexico)	176

(b) The Gulf of Mexico EA extends from 12 nautical miles off the U.S. Gulf coast outward into the Gulf.

Subpart B -- Applications and Licenses

§ 27.11 Initial authorization.

(a) An applicant must file an application for an initial WCS authorization in each market and channel block desired. Applicants are permitted to list all markets and channel blocks in a single application where all requisite exhibits and justifications are identical.

(b) The initial WCS authorizations shall be granted for 10 megahertz of spectrum in accordance with section 27.5. Authorizations for Blocks A and B will be based on Major Economic Areas (MEAs), as shown in section 27.6. Authorizations for Block C will be based on Regional Economic Area Groupings (REAGs), as shown in section 27.6. Applications for individual sites are not required and will not be accepted, except where required for environmental assessments, in accordance with section 27.63.

§ 27.12 Eligibility.

Any entity, other than those precluded by section 310 of the Communications Act of 1934, as amended, 47 U.S.C. section 310, is eligible to hold a license under this part.

§ 27.13 License period.

Initial WCS authorizations will have a term not to exceed ten years from the date of original issuance or renewal.

§ 27.14 Construction requirements; Criteria for comparative renewal proceedings.

(a) WCS licensees must make a showing of "substantial service" in their license area within ten years of being licensed. "Substantial" service is defined as service which is sound, favorable,

and substantially above a level of mediocre service which just might minimally warrant renewal. Failure by any licensee to meet this requirement will result in forfeiture of the license and the licensee will be ineligible to regain it.

(b) A renewal applicant involved in a comparative renewal proceeding shall receive a preference, commonly referred to as a renewal expectancy, which is the most important comparative factor to be considered in the proceeding, if its past record for the relevant license period demonstrates that:

(1) The renewal applicant has provided "substantial" service during its past license term; and

(2) The renewal applicant has substantially complied with applicable FCC rules, policies and the Communications Act of 1934, as amended.

(c) In order to establish its right to a renewal expectancy, a WCS renewal applicant involved in a comparative renewal proceeding must submit a showing explaining why it should receive a renewal expectancy. At a minimum, this showing must include:

(1) A description of its current service in terms of geographic coverage and population served;

(2) An explanation of its record of expansion, including a timetable of new construction to meet changes in demand for service;

(3) A description of its investments in its WCS system; and

(4) Copies of all FCC orders finding the licensee to have violated the Communications Act or any FCC rule or policy; and a list of any pending proceedings that relate to any matter described in this paragraph.

(d) In making its showing of entitlement to a renewal expectancy, a renewal applicant may claim credit for any system modification applications that were pending on the date it filed its renewal application. Such credit will not be allowed if the modification application is dismissed or denied.

§ 27.15 Geographic partitioning and spectrum disaggregation.

(a) Eligibility.

(1) Parties seeking approval for partitioning and disaggregation shall request from the Commission an authorization for partial assignment of a license pursuant to section 27.324.

(2) WCS licensees may apply to partition their licensed geographic service area or disaggregate their licensed spectrum at any time following the grant of their licenses.

(b) Technical Standards.

(1) Partitioning. In the case of partitioning, requests for authorization for partial assignment of a license must include, as attachments, a description of the partitioned service area and a calculation of the population of the partitioned service area and the licensed geographic service area. The partitioned service area shall be defined by coordinate points at every 3 degrees along the partitioned service area unless an FCC recognized service area is utilized (*i.e.*, Major Trading Area, Basic Trading Area, Metropolitan Service Area, Rural Service Area, Economic Area, or Major Economic Area) or county lines are followed. The geographic coordinates must be specified in degrees, minutes, and seconds to the nearest second of latitude and longitude and must be based upon the 1927 North American Datum (NAD27). Applicants may supply geographical coordinates based on 1983 North American Datum (NAD83) in addition to those required (NAD27). In the case where an FCC recognized service area or county lines are utilized, applicants need only list the specific area(s) (through use of FCC designations or county names) that constitute the partitioned area.

(2) Disaggregation. Spectrum may be disaggregated in any amount.

(3) Combined Partitioning and Disaggregation. The Commission will consider requests for partial assignment of licenses that propose combinations of partitioning and disaggregation.

(4) Signal Levels. For purposes of partitioning and disaggregation, WCS systems must be designed so as not to exceed a signal level of 47 dBμV/m at the licensee's service area boundary, unless the affected adjacent service area licensees have agreed to a different signal level. See section 27.55.

(c) Unjust Enrichment.

(1) Bidding Credits. Licensees that received a bidding credit and partition their licenses or disaggregate their spectrum to entities not meeting the eligibility standards for such a bidding credit, will be subject to the provisions concerning unjust enrichment as set forth in section 27.209(c).

(2) Apportioning Unjust Enrichment Payments. Unjust enrichment payments for partitioned license areas shall be calculated based upon the ratio of the population of the partitioned license area to the overall population of the license area and by utilizing the most recent census data. Unjust enrichment payments for disaggregated spectrum shall be calculated based upon the ratio of the amount of spectrum disaggregated to the amount of spectrum held by the licensee.

(d) License Term. The license term for a partitioned license area and for disaggregated spectrum shall be the remainder of the original licensee's license term as provided for in section 27.13.

Subpart C -- Technical Standards

§ 27.51 Equipment authorization.

(a) Each transmitter utilized for operation under this part and each transmitter marketed, as set forth in section 2.803 of this chapter, must be of a type that has been authorized by the Commission under its type acceptance procedure.

(b) The Commission periodically publishes a list of type accepted equipment, entitled "Radio Equipment List, Equipment Accepted for Licensing." Copies of this list are available for public reference at the Commission's offices in Washington, D.C., at each of its field offices, and may be ordered from its copy contractor.

(c) Any manufacturer of radio transmitting equipment to be used in these services may request equipment authorization following the procedures set forth in subpart J of part 2 of this chapter. Equipment authorization for an individual transmitter may be requested by an applicant for a station authorization by following the procedures set forth in part 2 of this chapter. Such equipment if approved or accepted will not normally be included in the Commission's Radio Equipment List but will be individually enumerated on the station authorization.

§ 27.52 RF safety.

Licensees and manufacturers are subject to the radio frequency radiation exposure requirements specified in sections 1.1307(b), 2.1091, and 2.1093 of this chapter, as appropriate. Applications for equipment authorization of mobile or portable devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

§ 27.53 Emission limits.

(a) The power of any emission outside the licensee's bands of operation shall be attenuated below the transmitter power (p) within the licensed bands of operation by the following amounts:

(1) For fixed operations, including radiolocation: By a factor not less than 80 + 10 log (p) dB on all frequencies between 2320 and 2345 MHz.

(2) For mobile operations, including radiolocation: By a factor not less than 110 + 10 log (p) dB on all frequencies between 2320 and 2345 MHz.

(3) For fixed and mobile operations, including radiolocation: By a factor not less than 70 + 10 log (p) dB on all frequencies below 2300 MHz and on all frequencies above 2370 MHz; and not less than 43 + 10 log (p) dB on all frequencies between 2300 and 2320 MHz and on all frequencies between 2345 and 2370 MHz that are outside the licensed bands of operation.

(4) For the purposes of this section, radiolocation shall be classified as either a fixed or mobile service, depending upon the application.

(5) Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or less, but at least one percent of the emission bandwidth of the fundamental emission of the transmitter, provided the measured energy is integrated over a 1 MHz bandwidth.

(6) In complying with the requirements in sections 27.53(a)(1) and 27.53(a)(2), WCS equipment that uses opposite sense circular polarization from that used by satellite DARS systems in the 2320-2345 MHz band shall be permitted an allowance of 10 dB.

(7) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the edges, both upper and lower, of the licensee's bands of operation as the design permits.

(8) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

(9) The above out-of-band emissions limits may be modified by the private contractual agreement of the affected licensees, who shall maintain a copy of the agreement in their station files and disclose it to prospective assignees or transferees or, upon request, to the Commission.

(b) For WCS satellite DARS operations: The limits set forth in section 25.202(f) of this chapter apply, except that satellite DARS operations are limited to a maximum power flux density of -197 dBW/m^2/4 kHz in the 2370-2390 MHz band at Arecibo, Puerto Rico.

(c) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

§ 27.54 Frequency stability.

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

§ 27.55 Field strength limits.

The predicted or measured median field strength at any location on the border of a WCS service area shall not exceed 47 dBμV/m unless the parties agree to a different field strength. This value applies to both the initially offered REAG service areas and to partitioned service areas.

§ 27.56 Antenna structures; air navigation safety.

A licensee that owns its antenna structure(s) must not allow such antenna structure(s) to become a hazard to air navigation. In general, antenna structure owners are responsible for registering antenna structures with the FCC if required by part 17 of this chapter, and for installing and maintaining any required marking and lighting. However, in the event of default of this responsibility by an antenna structure owner, the FCC permittee or licensee authorized to use an affected antenna structure will be held responsible by the FCC for ensuring that the antenna structure continues to meet the requirements of part 17 of this chapter. See section 17.6 of this chapter.

(a) Marking and lighting. Antenna structures must be marked, lighted and maintained in accordance with part 17 of this chapter and all applicable rules and requirements of the Federal Aviation Administration. For any construction or alteration that would exceed the requirements of section 17.7 of this chapter, licensees must notify the appropriate Regional Office of the Federal Aviation Administration (FAA Form 7460-1) and file a request for antenna height clearance and obstruction marking and lighting specifications (FCC Form 854) with the FCC, WTB, 1270 Fairfield Road, Gettysburg, PA 17325.

(b) Maintenance contracts. Antenna structure owners (or licensees and permittees, in the event of default by an antenna structure owner) may enter into contracts with other entities to monitor and carry out necessary maintenance of antenna structures. Antenna structure owners (or licensees and permittees, in the event of default by an antenna structure owner) that make such contractual arrangements continue to be responsible for the maintenance of antenna structures in regard to air navigation safety.

§ 27.57 International coordination.

WCS operations in the border areas shall be subject to coordination with those countries and provide protection to non-U.S. operations in the 2305-2320 and 2345-2360 MHz bands as appropriate. In addition, satellite DARS operations in WCS spectrum shall be subject to international satellite coordination procedures.

§ 27.59 Environmental requirements.

WCS operations that may have a significant environmental impact as defined by sections 1.1301 through 1.1319 of this chapter, must file an FCC Form 600 and supply specific technical